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Accession number & update

3584875, A90043566, B90024960; 900000.

Title

TV attachment for **measuring temperature** differences.

Author(s)

Zhukov-A-G; Trunov-A-P; Portnov-V-G.

Source

Measurement-Techniques (USA), vol.32, no.3, p.221-3, March 1989.

Translation of: Izmeritel-naya-Tekhnika (USSR), vol.32, no.3, p.23-5, March 1989.

CODEN

IZTEAW, CODEN of Translation: MSTCAL.

ISSN

ISSN: 0021-3349, ISSN of Translation: 0543-1972, CCCC: 0543-1972/89 /3203-0221 (\$12.50).

Publication year

1989.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

A Application; P Practical.

Abstract

A current fast **infrared-vision** system with a single detector can reproduce thermal and **temperature** patterns qualitatively and must have a wide passband, which sets limits to the signal-to-noise ratio. Such a system usually has a threshold **temperature** sensitivity of about 0.1-0.2 degrees C and in principle enables one to **measure temperature** differences with an error no better than this. The authors have developed a special attachment: the IRT-1 **temperature-difference meter** for attachment to the TV-03 **infrared** vision system, which converts the latter to a convenient precision reference instrument, whose functions are considered in calibrating reference sources. (2 refs).

Descriptors

infrared-detectors; television-applications; **temperature-measurement**.

Keywords

thermal patterns; TV attachment; **infrared** vision system; **temperature** patterns.

Classification codes

A0720D (Thermometry).

A0762 (Detection of radiation (bolometers, photoelectric cells,

i.r. and submillimetre waves detection))).

B7320R (Thermal variables).

B6430J (Applications of television systems).

B7230C (Photodetectors).

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3479553, B89072687, C89060352; 890000.

Title

The T/C and analog **pyrometer**: a tough combination to beat.

Author(s)

Bartlett-D.

Author affiliation

Bartlett Instrum Co, Fort Madison, IA, USA.

Source

I-CS (USA), vol.62, no.6, p.33-5, June 1989.

CODEN

CHISDY.

ISSN

ISSN: 0746-2395.

Publication year

1989.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

P Practical.

Abstract

The conditions under which **temperature** must be **measured** often are anything but friendly. For these harsh environments, the thermocouple (T/C) is truly a convenient **temperature** transducer to use. Operation is easy and most important of all it is very adaptable to harsh environments and wide **temperature** ranges. The analog **pyrometer** is a great companion for the T/C. Neither the **pyrometer** nor the T/C require a power supply, thus ensuring easy hook-up and flexibility in application. Another appeal in a number of applications is the **meter's** moving needle display, which gives trend indication, relation to full scale, and relatively accurate readings at a glance. The article details the advantages and disadvantages of T/Cs and pyrometers to help engineers specify the most reliable, economical, and flexible **temperature** measurement system of this type possible. (0 refs).

Descriptors

pyrometers; **temperature-measurement**; thermocouples.

Keywords

analog **pyrometer**; harsh environments; thermocouple; **temperature** transducer; **temperature** measurement system.

Classification codes

B7320R (Thermal variables).
B7230C (Photodetectors).
C3240D (Electric transducers and **sensing** devices).
C3120N (Thermal variables).

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1021422, A77017981, B77011033; 770000.

Title

Measurement of **temperature-rise** of live connections.

Author(s)

Carlander-A-T.

Source

ERA (Sweden), vol.49, no.12, p.216-20, 1976.

CODEN

ERAFAA.

ISSN

ISSN: 0013-9939.

Publication year

1976.

Language

SS.

Publication type

J Journal Paper.

Treatment codes

A Application; P Practical.

Abstract

A portable **infrared pyrometer** for use on electrical installation parts is described. A mirror focuses the radiation on a detector, which actuates an indicator (through an amplifier): the indicator could be a scale with pointer or the like. An optical filter is inserted between detector and mirror. The power for operating the mechanism is obtained from batteries. The detectors for temperatures below 500 degrees C are thermistors. Zero drift is minimised. The instrument can be fitted with sights for aiming at the part whose **temperature** is to be **measured**, with **meter** hold, and with peak hold (maximum value hold). (0 refs).

Descriptors

pyrometers; **temperature-measurement**; thermistors.

Keywords

portable **infrared pyrometer**; electrical installation parts; mirror; radiation; detector; indicator; optical filter; batteries; thermistors; **meter** hold; peak hold; live connection **temperature** rise measurement.

Classification codes

A0720K (**High-temperature** techniques and instrumentation; **pyrometry**)

B2120 (Resistors).
B7230C (Photodetectors).
B7320R (Thermal variables).

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Accession number & update

744515, A75019924, B75013235; 750000.

Title

Too hot to touch? (**infrared** thermometer).

Author(s)



Leftwich-R-F.

Source

Instruments-and-Control-Systems (USA), vol.47, no.10, p.51-4, Oct. 1974.

CODEN

INCSA7.

ISSN

ISSN: 0164-0089.

Publication year

1974.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

A Application; P Practical.

Abstract

Introduces **infrared** thermometers for non-contact **temperature** measurement on small or large areas. The **measured temperature** is shown on a direct-reading **meter** scale. The principle of **infrared** instrument, optical part and **infrared** detector, is briefly discussed. The measurement techniques and the types of radiometers are presented: (0 refs).

Descriptors

infrared-detectors; radiometers; **temperature-measurement**; thermometers.

Keywords

noncontact **temperature** measurement; **infrared** radiation; emissivity; optical system; black body **temperature**; radiation chopper; **infrared** thermometers; **infrared** detector; radiometers.

Classification codes

A0670D (**Sensing** and detecting devices).

A0720D (Thermometry).

A0762 (Detection of radiation (bolometers, photoelectric cells,

i.r. and submillimetre waves detection))).

B7230C (Photodetectors).

B7320R (Thermal variables).

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Search strategy

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3	INZZ	1 AND 2	unrestricted	364
4	INZZ	pyromet\$2 OR infrared	unrestricted	207614
5	INZZ	3 AND 4	unrestricted	20

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Temperature measurement with a radiation thermometer.

Accession number & update

684059, A74068635, B74035011; 740000.

Author(s)

Fischer-H.

Source

Elektrische-Ausruestung (West Germany), vol.15, no.3, p.27-30, June 1974.

CODEN

ELKAA3.

Publication year

1974.

Language

GE.

Publication type

J Journal Paper.

Treatment codes

A Application.

Abstract

Brief introduction to radiation *pyrometry* is given (Wien's and Stefan Boltzmann's laws; emissivity of different materials). Description of a new type of battery operated radiation *pyrometer* ('Thermophil INFRA') especially for temperatures around 100 degrees C comprising (a) a probe of 14 mm diameter and 10 ms time constant (radiation received through KBr window, concentrated onto thermopile by gold plated conical reflectors; *temperature-dependent* semiconductor compensating circuit); (b) Indicating instrument (containing bridge circuit amplifier). Permits switch-over to a strip thermocouple probe and is suitable for 0-320 degrees C or 0-600 degrees C with 0-120 degrees C smallest span; output linearly proportional to *temperature* or to its 4th order, dependent on types of probe. Accuracy to Class 1 (VDE). (5 refs).

Descriptors

pyrometers; *temperature-measurement*; thermometers.

Keywords

temperature measurement radiation thermometer; battery operated radiation *pyrometer*; temperatures around 100C; 10 ms time constant.

Classification codes

A0720D (Thermometry).
B7230 (Sensing devices and transducers).
B7250J (Bridge instruments).
B7320R (Thermal variables).
C3240D (Electric transducers and sensing devices).

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Automatic transistorised two-wavelength pyrometer.

ISI/IN Full Text Retrieval Options

Accession number & update

500669, A73022292, B73014250, C73008656; 730000.

Author(s)

Nowakowski-A.

Author affiliation

Polytech Gdanskiej, Poland.

Source

Pomiary-Automatyka-Kontrola (Poland), vol.18, no.12, p.535-6, Dec. 1972.

CODEN

PAUKAP.

ISSN

ISSN: 0032-4140.

Publication year

1972.

Language

PO.

Publication type

J Journal Paper.

Treatment codes

A Application; P Practical.

Abstract

The author presents the specific conditions of non-contact *temperature* measurements in a cement factory, and describes an automatic two-wavelength *pyrometer* designed for this purpose. Operating principle, design features and basic technical data of this instrument are furnished. (5 refs).

Descriptors

automatic-control; cement-industry; process-control; pyrometers; *temperature-measurement*.

Keywords

cement factory; noncontact *temperature* measurement; automatic transistorised two wavelength *pyrometer*.

Classification codes

A0670T (Servo and control devices).

A0720D (Thermometry).

A0720K (*High-temperature* techniques and instrumentation; *pyrometry*)

B7210F (Telemetering systems).

B7230 (Sensing devices and transducers).

B7320R (Thermal variables).

C3240D (Electric transducers and sensing devices).

C3250 (Telecontrol and telemetering components).

C3350N (Glass, ceramics, brick and cement industries).

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Search strategy

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2	INZZ	C3240D.CC. AND A0720D.CC.	unrestricted	345
3	INZZ	2 AND temperature	unrestricted	318
4	INZZ	pyromet\$2 OR infrared	unrestricted	207614
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Peter Cleaveland. Instrumentation & Control Systems. Dec 1998. Vol. 71, Iss. 12; p. 42
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Anonymous. Instrumentation & Control Systems. Oct 1998. Vol. 71, Iss. 10; p. 78
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- ☐ 3. **[Multiloop temperature controllers save time and money, cut downtime](#)**
Charlie Smith, Melissa Coash. Instrumentation & Control Systems. Aug 1998. Vol. 71, Iss. 8; p. 55
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- ☐ 4. **[Instruments for temperature measurement and production testing ease data acquisition, enhance reliability](#)**
Tom Polishchuk. Instrumentation & Control Systems. Jul 1998. Vol. 71, Iss. 7; p. 68 (1 page)
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- ☐ 5. **[Smart HART temperature transmitter designed for universal application](#)**
Tom Polishchuk. Instrumentation & Control Systems. Jun 1998. Vol. 71, Iss. 6; p. 82 (1 page)
[Full text](#) [Citation](#)
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- ☒ 6. **[Temperature technology: Users reap benefits of hot products](#)**
Tom Polishchuk. Instrumentation & Control Systems. Jun 1998. Vol. 71, Iss. 6; p. 24 (11 pages)
[Full text](#) [Citation](#)
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- ☐ 7. **[Boards, recorders, and software ease data acquisition, temperature recording tasks](#)**
Peter Cleaveland. Instrumentation & Control Systems. Aug 1997. Vol. 70, Iss. 8; p. 92 (1 page)
[Full text](#) [Citation](#)
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- ☒ 8. **[IR temperature sensors get smart, offer more functionality](#)**
Thomas Heinke, Karen Ackland. Instrumentation & Control Systems. Jun 1997. Vol. 70, Iss. 6; p. 41 (4 pages)
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